REMARKS

FORMAL MATTERS:

Claims 1-13 and 20-24 are pending after entry of the amendments set forth herein.

Claims 1-3 and 5-13 are rejected and Claim 4 is objected to.

Claims 20-24 have been allowed.

Claim 1 has been amended. Support for these amendments can be found in the claims as originally filed and throughout the specification at, for example, page 35, lines 6-8.

Accordingly, no new matter is presented by the amendments.

WITHDRAWN OBJECTIONS AND REJECTIONS

Applicants express gratitude in Examiner's indication that rejection and objections set forth in the Office Action mailed on January 25, 2005, have been withdrawn.

ALLOWABLE CLAIMS

Applicants express gratitude in Examiner's indication that Claim 4 is allowable and that Claims 20-24 have been allowed.

REJECTIONS UNDER §102

Claims 1-3 and 9-12 have been rejected under 35 U.S.C. §102(b) for allegedly being anticipated by Dunham et al. (JBC 274:1683-1690 (1999)). In view of the remarks made below, this rejection is respectfully traversed.

Dunham et al. discloses detecting conformational changes in response to **photoactivation** using a rhodopsin mutant containing a series of single reactive cysteine resides that were introduced into transmembrane and cytoplasmic regions of helix F of the receptors. The conformational change of the labeled rhodopsin mutants of Dunham et al. is in response to exposure to light and **not in response to a diffusible ligand, such as hormones and neurotransmitters**.

In contrast to the cited art, the present claims are directed at identifying a **ligand** of a GPCR by screening candidate agents and detecting a conformational change in the GPCR. As such, the claims of the present application are **directed at GPCRs that are activatable by diffusible ligands, such as hormones and neurotransmitters** and **not GPCRs that are activatable by exposure to light**, such as rhodopsin. The specification of the present application on page 34, paragraph [00136] to page 36, paragraph [00139] provides a through discussion of the kinetics of agonist-induced conformation changes in a GPCR that recognizes a diffusible ligand and distinguishes such receptors from photoactivatable receptors such as rhodopsin of Dunham et al.

In the spirit of expediting prosecution and without conceding as to the correctness of the rejection, Claims 1 and 20 have been amended to recite "a G protein-coupled receptor (GPCR) **for a hormone or neurotransmitter**". The amendments clearly distinguish the GPCRs of the present invention from the cited art, which only discloses a GPCR that is photoactivatable, namely the rhodopsin receptor. Support for the amendments can be found in the specification at, for example, page 35, lines 6-8.

Accordingly, since Dunham et al. fails to teach each and every element as set forth in the claims, the cited reference fails to anticipate the claimed invention as presented in the Office Action. In view of the above, the Applicants respectfully request that the rejection of claims 1-3 and 9-12 under 35 U.S.C. §102(b) be withdrawn.

REJECTIONS UNDER §103(A)

Claims 5-8 and 13 have been rejected under 35 U.S.C. §103(a) for allegedly being unpatentable over Dunham et al., in view of Farrens et al. (Science 274:768-770 (1990)). In view of the remarks made below, this rejection is respectfully traversed.

Dunham et al. discloses detecting conformational changes in response to photoactivation using rhodopsin mutant containing a series of single reactive cysteine resides. Likewise, Ferrens et al., teaches detecting **photoactivated** conformational changes in rhodopsin using spin-labeled double cysteine mutants. Therefore, the conformational change of the labeled rhodopsin mutants of Dunham et al. and

Ferrens et al. is in response to exposure to light and **not in response to a diffusible ligand such as hormones and neurotransmitters.**

As noted above, the claims have been amended to recite "a G protein-coupled receptor (GPCR) **for a hormone or neurotransmitter**". The amendments clearly distinguish the GPCRs of the present invention from the cited art, which only disclose a GPCR that is photoactivatable, namely the rhodopsin receptor. Therefore, the combination of cited references fails to teach each and every limitation found in the claims.

Accordingly, the Applicants respectfully request that this rejection be withdrawn.

CONCLUSION

Applicant submits that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number STAN-213.

Respectfully submitted,
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Date: October 19, 2005

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